Breeding Bird Surveys in the Gwich'in Settlement Area: June 2013

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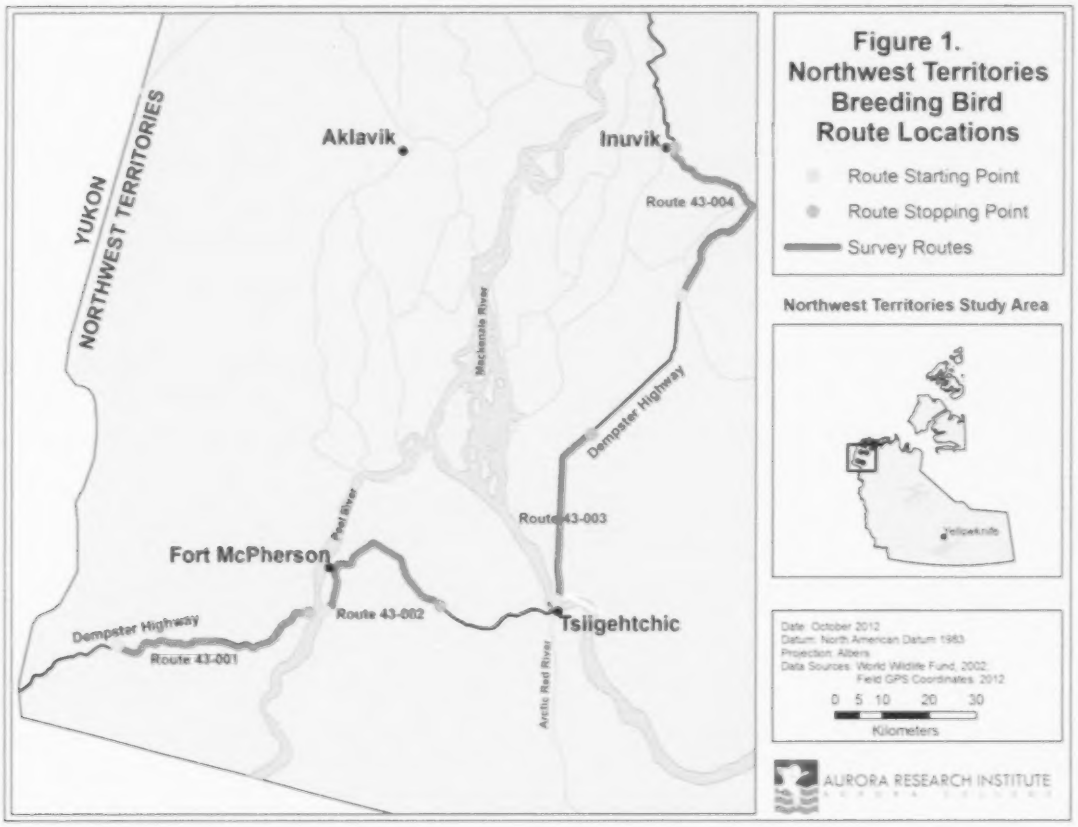
1. Introduction

Breeding bird surveys (BBS) have been conducted across North America since the 1960s, usually by volunteers. Four BBS routes near the communities of Fort McPherson, Inuvik and Tsiigehtchic were completed in 2012 and 2013. To be valuable, BBS routes need to be run consistently over time to gage bird population trends. This report gives a summary of the surveys conducted in 2013.

2. Study Locations

On June 8, 9, and 12 2013, ARI staff and 6 local field assistants, conducted three breeding bird survey routes near the communities of Fort McPherson, Inuvik and Tsiigehtchic in the Northwest Territories (Figure 1). Route 43-001 was not completed due to rain.



3. Objectives and Rationale

The main objectives of this research were to:

1) Collect information about **Species-At-Risk** in the Gwich'in Settlement Area and provide the data to the Species-At-Risk Stewardship Program and the local Renewable Resource Councils;
2) Collect information about breeding birds in the region on BBS routes 043-001, 002, 003 and 004 that were vacant (i.e. no surveyors were scheduled to complete the routes in 2013);
3) Provide the data collected to the Canadian Wildlife Service for inclusion in the North American-wide breeding bird surveys program to determine long-term population trends; and
4) To provide training for local field assistants so they may survey the routes in future years.

4. Community Involvement

Two field assistants from each of the three communities helped complete the surveys by navigating to the stop locations, taking photographs and timing the 3 minute-long surveys. They were shown how to use a handheld GPS and taught how to identify some birds by song. Each assistant received $200 per survey day for their help. If funding is obtained next year, it is anticipated that the same field assistants will participate again. By providing training, it is hoped that some (or all) of the assistants will be able to take over the routes in future years. One assistant has been using the educational materials provided in 2012 to teach children in Tsiigehtchic about birds.

The local Renewable Resources Council in Fort McPherson requested that a presentation be made to the Council. Unfortunately, the scheduled RRC meeting was postponed for a week so a printed PowerPoint presentation was given instead of a formal presentation.

Financial support for this project was provided by the Species-At-Risk Stewardship Program and the Aurora Research Institute. The local Renewable Resource Councils provided support by completing recommendation forms and the Canadian Wildlife Service also offered a letter of support.

5. Methods

A total of 150 individual surveys were completed on three routes along the Dempster Highway (Figure 1). These surveys were part of North American-wide breeding bird surveys which were started in the 1960s to monitor long-term trends in bird populations. The method employed to conduct the surveys was to record all birds seen and heard within 400 metres of individual point count locations during 3 minute periods along each of the three routes. Survey locations were 800 metres apart and the routes were 40 km long allowing for 50 stops per route. The surveys were conducted from 3:30 to 10:00 in the morning. At each stop, the time, temperature, wind speed and sky conditions were also noted. Route 043-001 was not surveyed due to bad weather (to conduct breeding bird surveys there must be little wind and only light showers).

6. Results and Main Conclusions

Forty-nine different bird species were observed on all three routes that were completed in 2013. Table 1 provides a summary of the birds species observed on the three routes in the region during the 3 minute point counts and lists the data from 2012. The most common bird species observed on all three routes in 2013 were, in descending order: White-crowned Sparrow, Yellow Warbler, Northern Waterthrush, Swainson's Thrush, Wilson's Snipe, Common Redpoll, American Robin, Yellow-rumped Warbler (Myrtle), and Gray-cheeked Thrush. Other birds that were observed included seven **Species-At-Risk**, all listed as **Sensitive** in the Northwest Territories; Lesser Scaup, White-winged Scoter, Lesser Yellowlegs, Short-eared Owl, Blackpoll Warbler, American Tree Sparrow and Rusty Blackbird (ENR, 2011). **Sensitive** wildlife species are those "that are not at risk of extinction or extirpation but may require special attention or protection to prevent them from becoming at risk." (ENR, 2011). A total of 835 individual birds were observed on all three routes.

Table 1. Bird numbers and species observed by breeding bird survey routes and year.

Species	Number of Birds Observed by Route and Year								Total Species Observed	
	Route 43-001*		Route 43-002		Route 43-003		Route 43-004			
	2012	2013	2012	2013	2012	2013	2012	2013	2012	2013
Golden-crowned Kinglet							1		1	0
Hermit Thrush	1								1	0
Tree Swallow							1		1	0
Bonaparte's Gull			2						2	0
Rock Ptarmigan	2								2	0
Varied Thrush					1		1		2	0
Western Tanager					2				2	0
White-winged Crossbill	1				4		2		7	0
Tennessee Warbler					8				8	0
Northern Hawk Owl						1	1		1	1
Rusty Blackbird				1			1		1	1
Western Wood Pewee					1	1			1	1
Greater Scaup	2		3	1	2				7	1
Northern Pintail				1						1
Sharp-tailed Grouse								1		1
Common Goldeneye								1		1
Osprey								1		1
Northern Shoveller			1	2					1	2
Gray Jay					3	1		1	3	2
Ruby-crowned Kinglet	2		1	1	3			1	6	2
Spruce Grouse						2				2
Solitary Sandpiper								2		2

Species	Number of Birds Observed by Route and Year								Total Species Observed	
	Route 43-001*		Route 43-002		Route 43-003		Route 43-004			
	2012	2013	2012	2013	2012	2013	2012	2013	2012	2013
Olive-sided Flycatcher								2		2
Lesser Scaup				3			1		1	3
White-winged Scoter							4	3	4	3
Chipping Sparrow	1			2			5	1	6	3
Bohemian Waxwing				2		1	1	1	1	4
Willow Ptarmigan	5			1	3		1	3	9	4
Tundra Swan								5		5
Sandhill Crane	2			2	1	4	4		7	6
White-throated Sparrow				4		2				6
Canada Goose				1				5		6
Herring Gull			5	6			4	1	9	7
Wilson's Warbler				3	4	4	8		12	7
Lincoln's Sparrow				2		4		1		7
Pacific Loon			1	6		1		1	1	8
Orange-crowned Warbler	1		7	2		1	12	5	20	8
Savannah Sparrow	43		1	4	2	4			46	8
Glaucous Gull								10		10
Pine Grosbeak				1	19	9	4	2	23	12
Alder Flycatcher	30		10	9	4	6	3		47	15
Lesser Yellowlegs			1	2		12		2	1	16
American Tree Sparrow	4			5	3		4	13	11	18
Fox Sparrow	5		1	1	1	3	9	18	16	22
American Redstart				11	2	12			2	23
Common Raven				5			20	19	20	24
Blackpoll Warbler				4	12	18	6	5	18	27
(Slate-colored Junco) Dark-eyed Junco	5		8	8	9	12		12	22	32
Gray-cheeked Thrush				8	8	24	4	2	12	34
(Myrtle Warbler) Yellow-rumped Warbler	11		13	19	15	12	5	5	44	36
American Robin	12		3	8	4	14	24	19	43	41
Common Redpoll	18		3	9	22	16	26	17	69	42
Wilson's Snipe				12		27		7		46
Swainson's Thrush	3		6	20	12	26	10	12	31	58
Northern Waterthrush	1			10	11	34	9	16	21	60

Species	Number of Birds Observed by Route and Year								Total Species Observed	
	Route 43-001*		Route 43-002		Route 43-003		Route 43-004			
	2012	2013	2012	2013	2012	2013	2012	2013	2012	2013
Yellow Warbler	23		21	36	27	26	28	25	**99**	**87**
White-crowned Sparrow	7		7	26	29	41	30	60	**73**	**127**
Total Number of Birds Observed	**195**	**No data**	**87**	**238**	**225**	**318**	**233**	**279**	**740**	**835**

Notes: Each route consisted of 50 individual, three minute surveys spaced 800 metres apart.
* Route 43-001 was rained out for 2 days and was not completed.

A Short-eared Owl and a Snowy Owl were observed hunting at about the half-way point on Route 43-001. An osprey was observed building a nest at stop 42 of route 043-004 (Figure 2).

Figure 2. Osprey nest on the Inuvik route (Route 043-004).

Photo Credit: Hailey Verbonac

Monitoring bird populations is an important tool to identify where **Species-At-Risk** are located and for assessing the conservation status of common species.

7. Long Term Plans and Recommendations

Data need to be collected on an annual basis to enable the long-term assessment of bird population trends over time. It is recommended that the surveys be completed on an annual basis. To allow this to happen, trained local surveyors must be available to complete the work. Ideally, surveyors should have knowledge of and experience with bird point counts. A program should be implemented to train community members to conduct these surveys and ENR should consider investing funds to ensure on-going surveys.

8. References

ENR (Working Group on General Status of NWT Species). 2011. ***NWT Species 2011-2015 – General Status Ranks of Wild Species in the Northwest Territories***, Department of Environment and Natural Resources, Government of the Northwest Territories, Yellowknife, NT. 172 pp.